



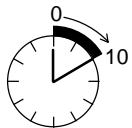
3-2. Duty Cycle

100% Duty Cycle At 250 Amperes Using Argon Gas w/DCEN For WP-20 And WP-20V and WP-20M Models

100% Duty Cycle At 225 Amperes Using Argon Gas For WP-20P Models


sb1.5* 8/93



Minutes

Definition

Duty Cycle is percentage of 10 minutes that torch can weld at rated load without overheating.





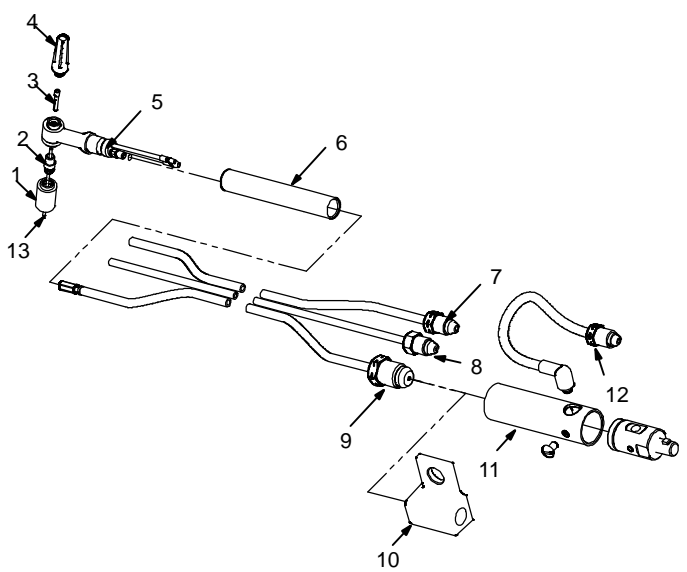
Continuous Welding

NOTICE – Do not exceed rated amperage or duty cycle (see Section 3-1). Exceeding rated amperage or duty cycle can damage torch and void warranty.

SECTION 4 – INSTALLATION

4-1. Required Torch Parts And Torch Assembly



- 1 Cup
- 2 Collet Body
- 3 Collet
- 4 Backcap (Includes O-Ring)
- 5 Torch Body
- 6 Handle
- 7 Water Hose
- 8 Gas Hose
- 9 Power Cable
- 10 Power Cable Adapter
- 11 International Style Adapter
- 12 Water Hose For International Style Adapter

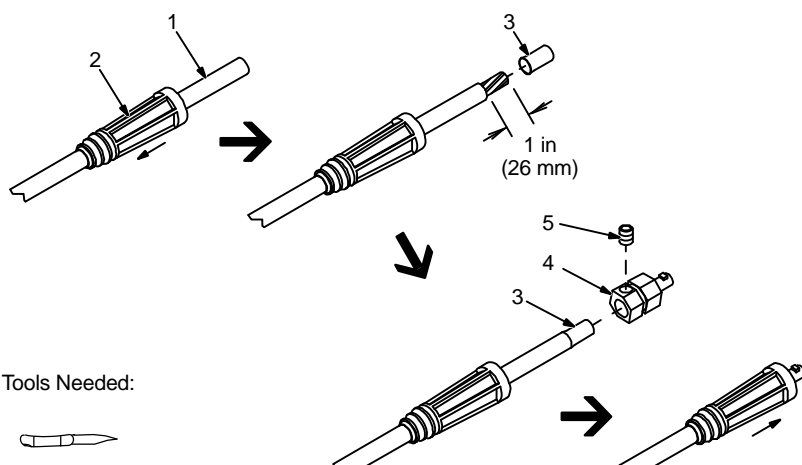
Assembling Torch Body
Keep connections tight. Replace cup, heat shield, and backcap as needed.

13 Tungsten Electrode (See Section 6)


Installing Tungsten
To adjust tungsten position, loosen backcap.

WC0202-B

4-2. International Style Connector Assembly



Tools Needed:



- 1 Weld Output Cable
- 2 Insulating Boot
- 3 Sleeve

Slide insulating boot onto cable; strip cable and install sleeve.

- 4 Connector Body
- 5 Setscrew

Insert cable with sleeve fully into connector body, tighten setscrew, and slide insulating boot over connector.

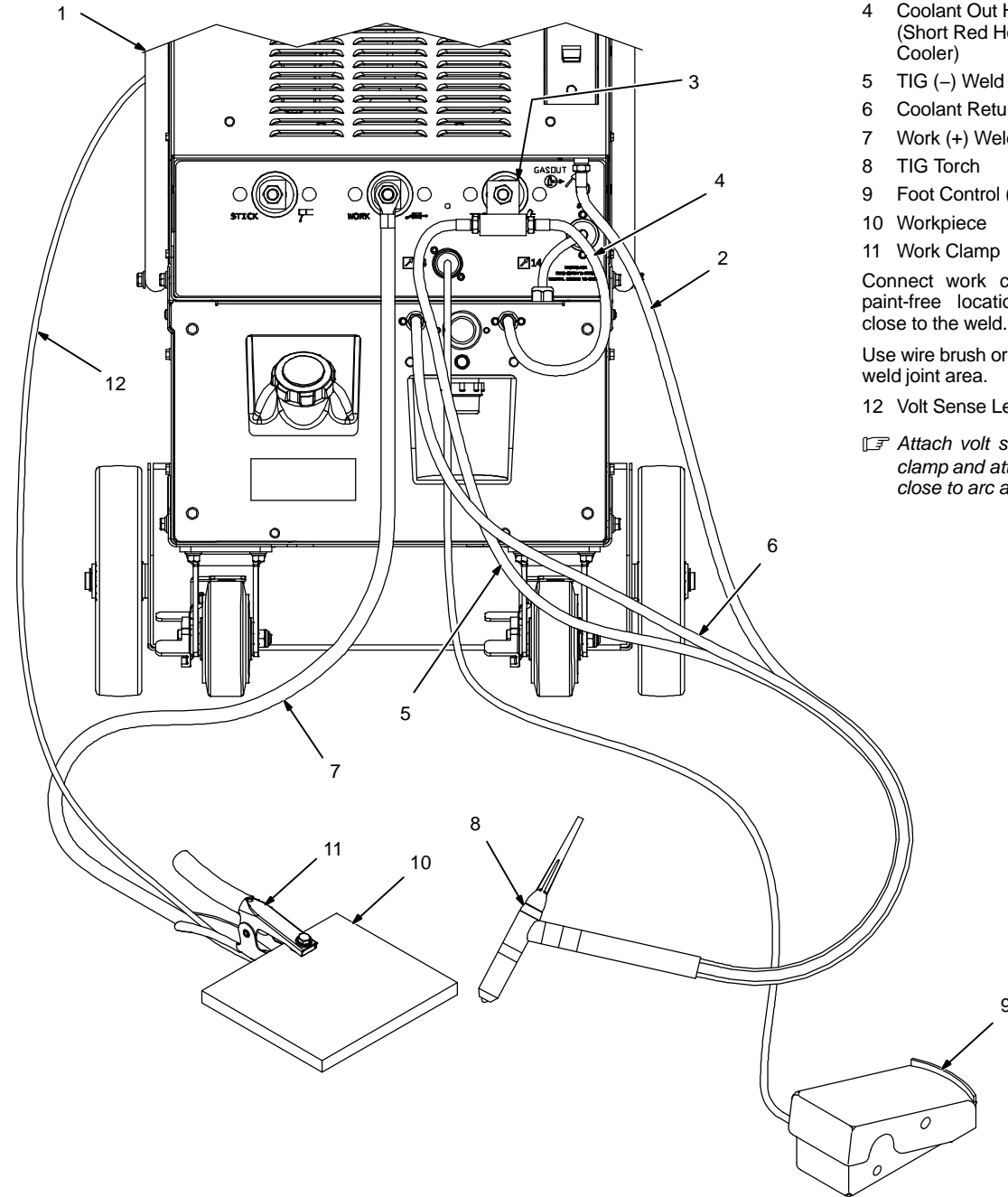
156 496

4-3. Connecting Torch

A. Connecting Torch To A PipeWorx With A PipeWorx Cooler



If applicable, install high-frequency unit.



Turn Off welding power source power before installing torch..

- 1 Welding Power Source
- 2 Gas Hose
- 3 TIG Block (Customer Supplied)
- 4 Coolant Out Hose 237 416 (Short Red Hose Supplied With Cooler)
- 5 TIG (-) Weld Cable
- 6 Coolant Return Hose
- 7 Work (+) Weld Cable
- 8 TIG Torch
- 9 Foot Control (Optional)
- 10 Workpiece
- 11 Work Clamp

Connect work clamp to a clean, paint-free location on workpiece, close to the weld.

Use wire brush or sandpaper to clean weld joint area.

12 Volt Sense Lead

Attach volt sense lead to work clamp and attach work clamp as close to arc as possible.

Tools Needed:



11/16 in.

B. Connecting Torch To A Dynasty™ 200 Or Maxstar® 200 TIGRunner™ Unit

Tools Needed:

- Wire brush
- Wrenches: 5/8, 7/8, 1-1/8 in.

Connections:

- Gas Hose With 5/8-18 Right-Hand Fittings (Customer Supplied)
- Regulator/Flowmeter
- Gas Cylinder
- Coolant System
- Torch
- Coolant-Into Torch Hose (Blue)
- Torch Gas Hose
- Coolant-Out Of Torch/Power Cable (Red)
- International Style Adapter

Connect coolant-out of torch/power cable to power cable adapter, and connect adapter to weld output terminal.

10 Work Clamp

Connect work clamp to a clean, paint-free location on workpiece, close to the weld.

Use wire brush or sandpaper to clean weld joint area.

11 Welding Power Source
12 Foot Control

803 311-A

C. Connecting Torch To A Syncrowave® 250 DX Or 350 LX TIGRunner Unit

Tools Needed:

- Wrench: 11/16 in.
- Wire brush
- Wrench: 9/16 in.

Connections:

- Gas Hose With 5/8-18 Right-Hand Fittings (Customer Supplied)
- Gas Cylinder
- Regulator/Flowmeter
- Power Source
- Coolant System
- Torch
- Coolant-Into Torch Hose (Blue)
- Coolant-Out Of Torch/Power Cable (Red)
- Torch Gas Hose
- Work Clamp

Connect torch coolant-out of torch/power cable to power cable adapter, and connect adapter to weld output terminal.

10 Work Clamp

Connect work clamp to a clean, paint-free location on workpiece, close to the weld.

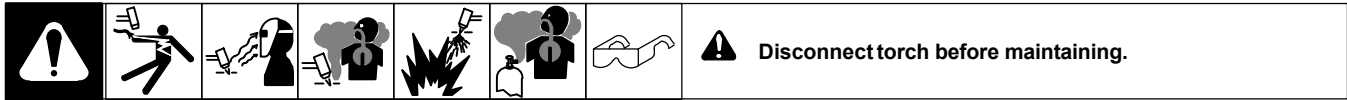
Use wire brush or sandpaper to clean weld joint area.

11 Foot Control

804 994-C

SECTION 5 – MAINTENANCE & TROUBLESHOOTING

5-1. Routine Maintenance



	✓ = Check * To be done by Factory Authorized Service Agent	◇ = Change	● = Clean	☆ = Replace
Daily	 ✓ Nozzle For Cracks – ☆ If Necessary			 ✓ Check Tungsten Preparation (See Section 6)
Weekly	 ✓ Collet For Wear – ☆ If Necessary	 ✓ Collet Body Threads – ☆ If Necessary	 ✓ Gas Lens Screen – ☆ If Necessary	 ✓ Gas Valve, If Applicable – ☆ If Necessary
	 ✓ Power Cable For Cracks, Wear – ☆ If Necessary	 ✓ Gas Hose For Cracks, Leaks, Wear – ☆ If Necessary	 ✓ Water Hose, If Applic- able, For Cracks, Leaks, Wear – ☆ If Necessary	 ✓ Back Cap O-Ring – ☆ If Necessary
Monthly	 ✓ Cable Cover For Tears, Holes, Or Wear – ☆ If Necessary	 ✓ Power, Gas, And Water Cable Connections To En- sure They Are Tight		
	* When using a water-cooled torch, maintain cooling equipment according to the manufactures recommendations.			

5-2. Troubleshooting

Before using troubleshooting table, check selection and preparation of tungsten electrode according to Section 6.

Trouble	Remedy
Arc will not start. High frequency present and visible at the torch.	Check cable and work connections. Be sure weld circuit is complete (see Section 4-3).
	Check and be sure shielding gas is present.
Lack of high frequency; difficulty in establishing arc.	Select proper size and type tungsten. Properly prepare tungsten according to Section 6.
	Check cables and torch for cracks or bad connections. Be sure that torch cables are not close to any grounded metal. Repair or replace necessary parts.
	Check torch consumables. Be sure collet and collet body are correctly installed and tightened (see Section 4-1).
	Check welding power source High Frequency control, and if necessary, check and adjust spark gaps.
Torch gas valve not working properly (if applicable).	Have Factory Authorized Service Station/Service Distributor check valve.
No shielding gas flow from torch.	Be sure valves on gas supply are open.
	Check cable for kinks or blockage.
	Check and tighten all gas supply fittings.
	Check cables and torch for cracked insulation or bad connections. Repair or replace (see Section 5-1).
Tungsten electrode oxidizing and not remaining bright after conclusion of weld.	Shield weld zone from drafts.
	Increase postflow time.
	Increase gas flow rate. Check manufacture's recommendations.
	Check and tighten all gas fittings.
	Check gas valve and flow meter/regulator.
	Select proper size and type tungsten. Properly prepare tungsten (see Section 6).

Trouble	Remedy
Excessive tungsten electrode consumption.	Select proper size and type tungsten. Properly prepare tungsten according to Section 6.
	Check polarity setting on welding power source (see welding power source Owner's manual).
	Check for proper gas flow rate. Check manufacture's recommendations.
	If torch is water cooled, check torch and cables for water leaks. Repair or replace if necessary (see Section 5-1).
Wandering arc	Shield weld zone from drafts.
	Reduce gas flow rate.
	Select proper size and type tungsten. Properly prepare tungsten according to Section 6.
	When using AC, check welding power source High Frequency control setting, and increase setting if necessary.
Yellow powder or smoke on cup.	Use proper type shielding gas.
	Check for proper gas flow rate. Check manufacture's recommendations.
	Increase postflow time.
	Check torch cup size. Match cup size to joint being welded.
Erratic arc	When using DC, check polarity, and/or polarity of welding cables.
	When using AC, check welding power source High Frequency control setting, and be sure it is operating continuously.
	Select proper size and type tungsten. Properly prepare tungsten according to Section 6.
	Use proper arc length. Arc length may be too long or too short.
	Make sure base material is clean and free of contaminates.
	When using AC, slow travel speed can cause erratic arc. Adjust travel speed.
Porosity in weld.	Check for proper gas flow rate. Check manufacture's recommendations.
	Check and tighten gas fittings.
	Make sure base material and filler material is clean and free of contaminates.
	Check for impurities and moisture in gas lines. Purge if necessary.
	If torch is water cooled, check torch and cables for water leaks. Repair or replace if necessary (see Section 5-1).

SECTION 6 – SELECTING AND PREPARING A TUNGSTEN FOR DC OR AC WELDING

gtaw_Phase_2011-06



Whenever possible and practical, use DC weld output instead of AC weld output.

6-1. Selecting Tungsten Electrode (Wear Clean Gloves To Prevent Contamination Of Tungsten)

☞ Not all tungsten electrode manufacturers use the same colors to identify tungsten type. Contact the tungsten electrode manufacturer or reference the product packaging to identify the tungsten you are using.

Electrode Diameter	Amperage Range - Gas Type ♦ - Polarity	
	(DCEN) – Argon Direct Current Electrode Negative (For Use With Mild Or Stainless Steel)	AC – Argon Balance Control @ 65% Electrode Negative (For Use With Aluminum)
2% Ceria, 1.5% Lanthanum, Or 2% Thorium Alloy Tungstens		
.040" (1 mm)	25-85	20-80
1/16" (1.6 mm)	50-160	50-150
3/32" (2.4 mm)	130-250	135-235
1/8" (3.2 mm)	250-400	225-360
Pure Tungsten		
.040" (1 mm)	Pure Tungsten Not Recommended For DCEN – Argon	10-60
1/16" (1.6 mm)		50-100
3/32" (2.4 mm)		100-160
1/8" (3.2 mm)		150-210

♦ Typical argon shielding gas flow rates are 11 to 35 cfh (cubic feet per hour).

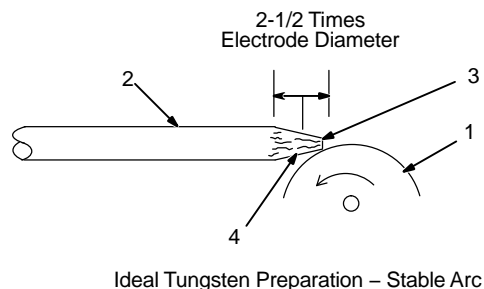
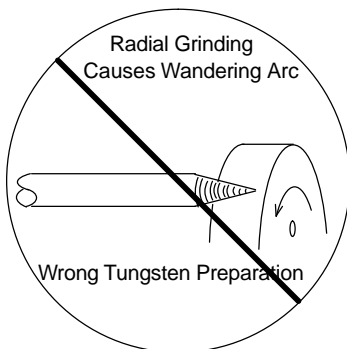
Figures listed are a guide and are a composite of recommendations from American Welding Society (AWS) and electrode manufacturers.

6-2. Preparing Tungsten Electrode For Welding With Phase Control Machines



Grinding the tungsten electrode produces dust and flying sparks which can cause injury and start fires. Use local exhaust (forced ventilation) at the grinder or wear an approved respirator. Read MSDS for safety information. Consider using tungsten containing ceria, lanthana, or yttria instead of thoria. Grinding dust from thoriated electrodes contains low-level radioactive material. Properly dispose of grinder dust in an environmentally safe way. Wear proper face, hand, and body protection. Keep flammables away.

A. Preparing Tungsten For DC Electrode Negative (DCEN) Welding



1 Grinding Wheel

Grind end of tungsten on fine grit, hard abrasive wheel before welding. Do not use wheel for other jobs or tungsten can become contaminated causing lower weld quality.

2 Tungsten Electrode

A 2% ceriated tungsten is recommended.

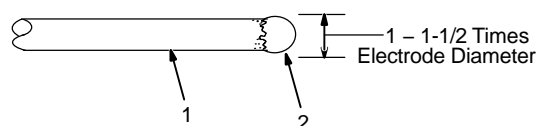
3 Flat

Diameter of this flat determines amperage capacity.

4 Straight Ground

Grind lengthwise, **not radial**.

B. Preparing Tungsten For AC Welding



1 Tungsten Electrode

A pure tungsten is recommended..

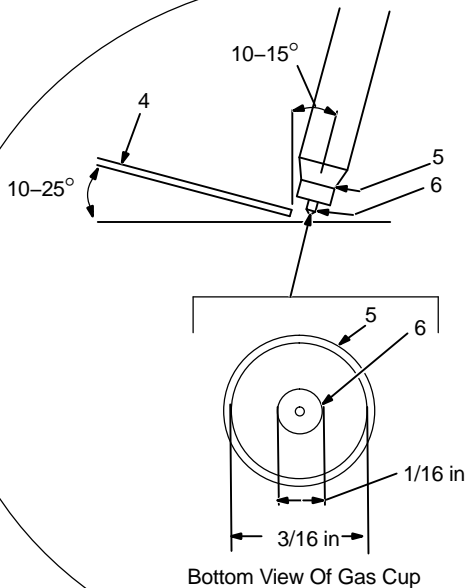
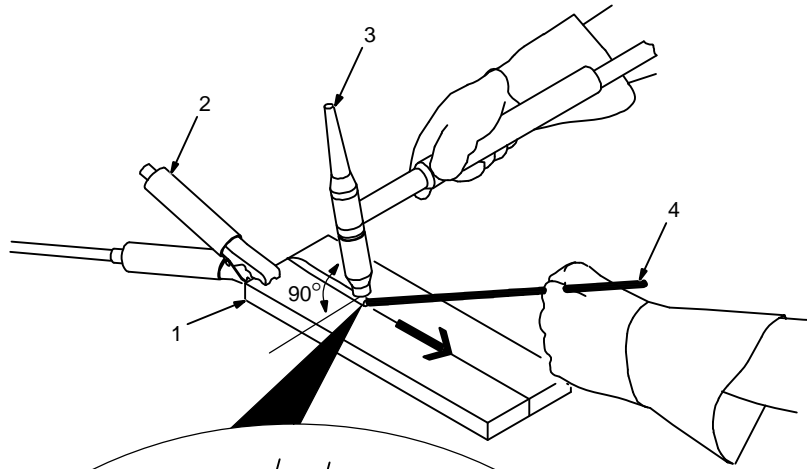
2 Balled End

Ball end of tungsten by applying AC amperage recommended for a given electrode diameter (see Section 6-1). Let ball on end of the tungsten take its own shape.

SECTION 7 – GUIDELINES FOR TIG WELDING (GTAW)

2007-04

7-1. Positioning The Torch



⚠ Grinding the tungsten electrode produces dust and flying sparks which can cause injury and start fires. Use local exhaust (forced ventilation) at the grinder or wear an approved respirator. Read MSDS for safety information. Consider using cerium or lanthanum based tungsten instead of thoriated. Thorium dust contains low-level radioactive material. Properly dispose of grinder dust in an environmentally safe way. Wear proper face, hand, and body protection. Keep flammables away.

1 Workpiece

Make sure workpiece is clean before welding.

2 Work Clamp

Place as close to the weld as possible.

3 Torch

4 Filler Rod (If Applicable)

5 Gas Cup

6 Tungsten Electrode

Select and prepare tungsten according to Section 6.

Guidelines:

The inside diameter of the gas cup should be at least three times the tungsten diameter to provide adequate shielding gas coverage. (For example, if tungsten is 1/16 in diameter, gas cup should be a minimum of 3/16 in diameter.)

Tungsten extension is the distance the tungsten extends out gas cup of torch.

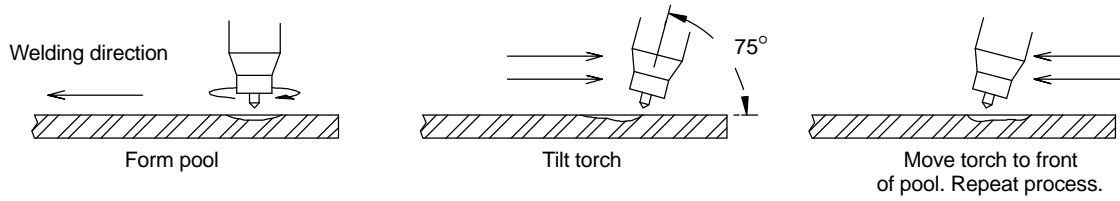
The tungsten extension should be no greater than the inside diameter of the gas cup.

Arc length is the distance from the tungsten to the workpiece.

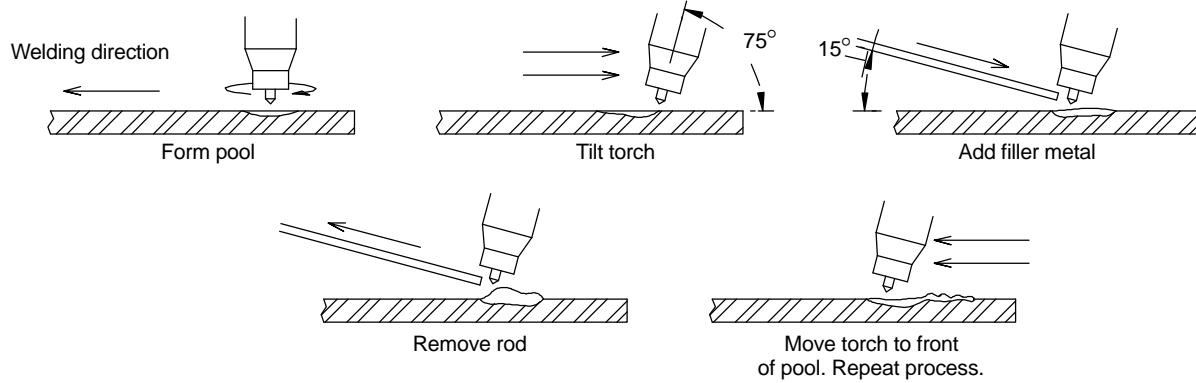
Ref. ST-161 892

7-2. Torch Movement During Welding

Tungsten Without Filler Rod



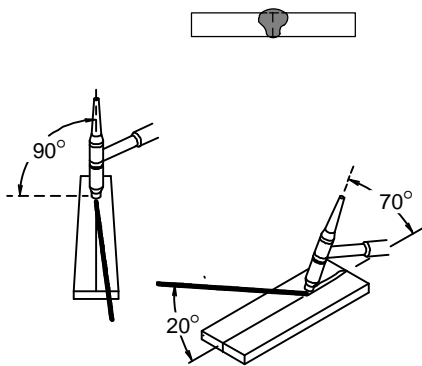
Tungsten With Filler Rod



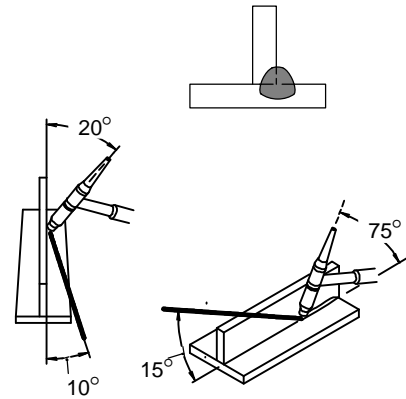
ST-162 002-B

7-3. Positioning Torch Tungsten For Various Weld Joints

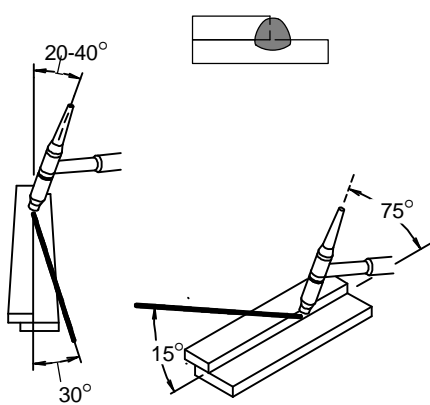
Butt Weld And Stringer Bead



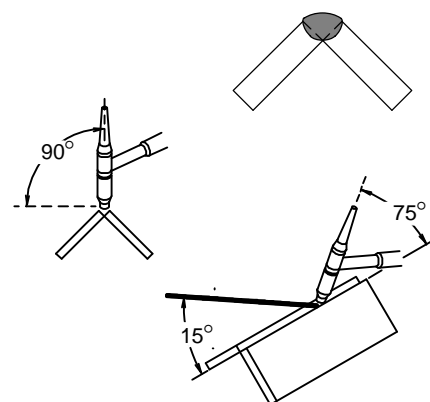
"T" Joint



Lap Joint



Corner Joint



ST-162 003 / S-0792

SECTION 8 – PARTS LIST

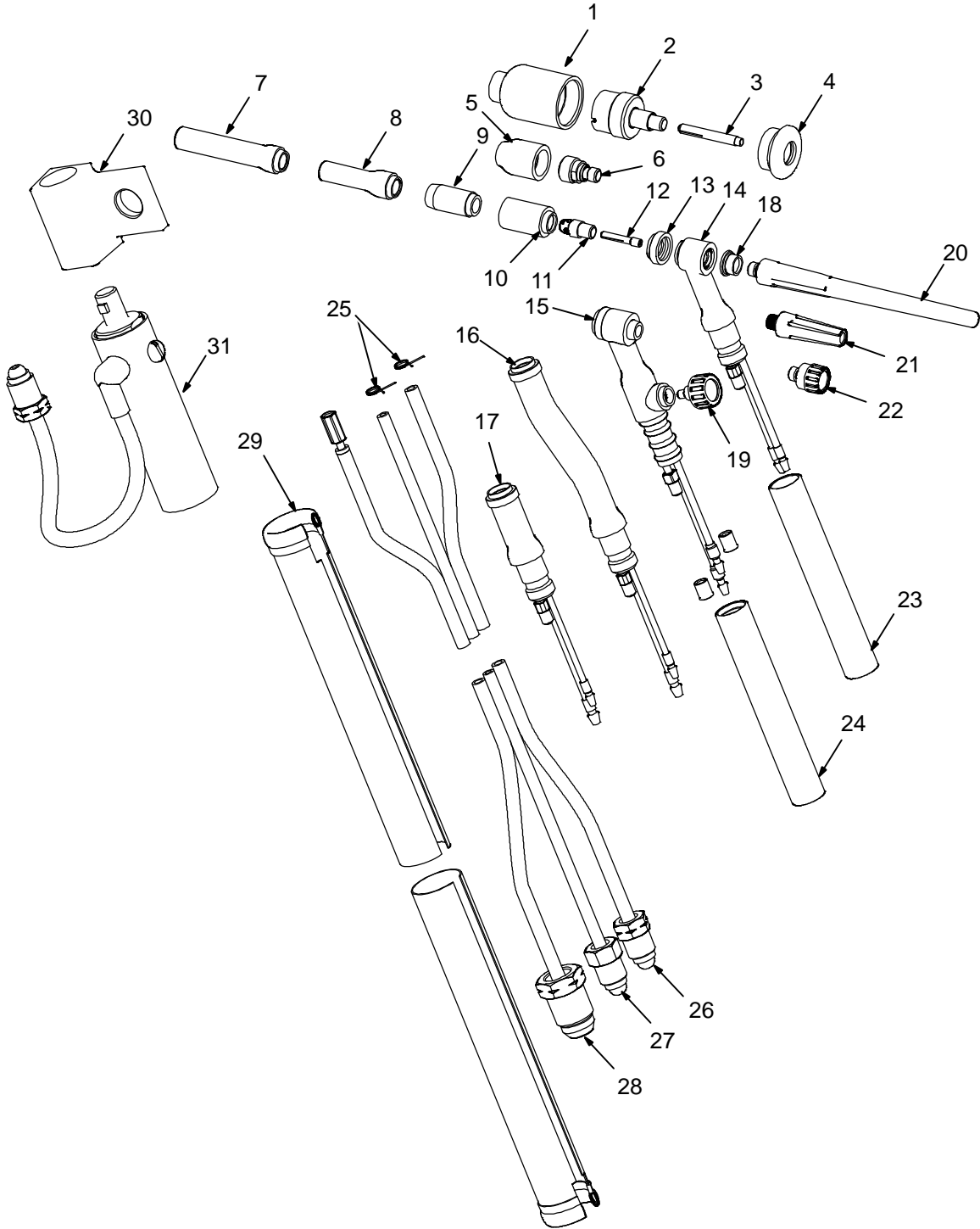


Figure 8-1. Complete Torch Assembly

WC0203-B

Item No.	Stock No.	Description	Quantity/Model			
			W-250 (WP20)	W-250V (WP20V)	W-200 (WP25)	W-225 (WP20P)

Figure 8-1. Complete Torch Assembly

.. 1	◆57N75	Nozzle, Alumina GL LG #6 (3/8 in.)	1	1	1	1
.. 1	◆57N74	Nozzle, Alumina GL LG #8 (1/2 in.)	1	1	1	1
.. 1	◆53N88	Nozzle, Alumina GL LG #10 (5/8 in.)	1	1	1	1
.. 1	◆53N87	Nozzle, Alumina GL LG #12 (3/4 in.)	1	1	1	1
.. 1	◆53N89	Nozzle, Alumina GL Short #15 (15/16 in.)	1	1	1	1
.. 2	◆45V0204S	Gas Lens, LG Stubby 0.020–0.040 in. (0.5–1.0 mm)	1	1	1	1
.. 2	◆45V116S	Gas Lens, LG Stubby 1/16 in. (1.6 mm)	1	1	1	1
.. 2	◆45V64S	Gas Lens, LG Stubby 3/32 in. (2.4 mm)	1	1	1	1
.. 2	◆995795S	Gas Lens, LG Stubby 1/8 in. (3.2 mm)	1	1	1	1
.. 3	◆13N20L	Collet, Gas Lens 0.020 in. (0.5 mm)	1	1	1	1
.. 3	◆13N21L	Collet, Gas Lens 0.040 in. (1.0 mm)	1	1	1	1
.. 3	◆13N22L	Collet, Gas Lens 1/16 in. (1.6 mm)	1	1	1	1
.. 3	◆13N23L	Collet, Gas Lens 3/32 in. (2.4 mm)	1	1	1	1
.. 3	◆13N24L	Collet, Gas Lens 1/8 in. (3.2 mm)	1	1	1	1
.. 4	◆54N63-20	Insulator, Gas Lens LG	1	1	1	1
.. 5	◆53N58	Nozzle, Alumina GL #4 (1/4 in.)	1	1	1	1
.. 5	◆53N59	Nozzle, Alumina GL #5 (5/16 in.)	1	1	1	1
.. 5	◆53N60	Nozzle, Alumina GL #6 (3/8 in.)	1	1	1	1
.. 5	◆53N61	Nozzle, Alumina GL #7 (7/16 in.)	1	1	1	1
.. 5	◆53N61S	Nozzle, Alumina GL #8 (1/2 in.)	1	1	1	1
.. 6	◆45V41	Gas Lens, 0.020 in. (0.5 mm)	1	1	1	1
.. 6	◆45V42	Gas Lens, 0.040 in. (1.0 mm)	1	1	1	1
.. 6	◆45V43	Gas Lens, 1/16 in. (1.6 mm)	1	1	1	1
.. 6	◆45V44	Gas Lens, 3/32 in. (2.4 mm)	1	1	1	1
.. 6	◆45V45	Gas Lens, 1/8 in. (3.2 mm)	1	1	1	1
.. 7	◆796F74	Nozzle, Lava X-Long #3 (3/16 in.)	1	1	1	1
.. 7	◆796F75	Nozzle, Lava X-Long #4 (1/4 in.)	1	1	1	1
.. 7	◆796F76	Nozzle, Lava X-Long #5 (5/16 in.)	1	1	1	1
.. 7	◆796F77	Nozzle, Lava X-Long #6 (3/8 in.)	1	1	1	1
.. 8	◆796F70	Nozzle, Lava Long #3 (3/16 in.)	1	1	1	1
.. 8	◆796F71	Nozzle, Lava Long #4 (1/4 in.)	1	1	1	1
.. 8	◆796F72	Nozzle, Lava Long #5 (5/16 in.)	1	1	1	1
.. 8	◆796F73	Nozzle, Lava Long #6 (3/8 in.)	1	1	1	1
.. 9	◆13N14	Nozzle, Lava #4 (1/4 in.)	1	1	1	1
.. 9	◆13N15	Nozzle, Lava #5 (5/16 in.)	1	1	1	1
.. 9	◆13N16	Nozzle, Lava #6 (3/8 in.)	1	1	1	1
.. 9	◆13N17	Nozzle, Lava #7 (7/16 in.)	1	1	1	1
.. 9	◆13N18	Nozzle, Lava #8 (1/2 in.)	1	1	1	1
.. 9	◆13N19	Nozzle, Lava #10 (5/8 in.)	1	1	1	1
.. 10	◆13N08	Nozzle, Alumina #4 (1/4 in.)	1	1	1	1
.. 10	◆13N09	Nozzle, Alumina #5 (5/16 in.)	1	1	1	1
.. 10	◆13N10	Nozzle, Alumina #6 (3/8 in.)	1	1	1	1
.. 10	◆13N11	Nozzle, Alumina #7 (7/16 in.)	1	1	1	1
.. 10	◆13N12	Nozzle, Alumina #8 (1/2 in.)	1	1	1	1
.. 10	◆13N13	Nozzle, Alumina #10 (5/8 in.)	1	1	1	1
.. 11	◆13N25	Collet Body, 0.020 in. (0.5 mm)	1	1	1	1
.. 11	◆13N26	Collet Body, 0.040 in. (1.0 mm)	1	1	1	1
.. 11	◆13N27	Collet Body, 1/16 in. (1.6 mm)	1	1	1	1
.. 11	◆13N28	Collet Body, 3/32 in. (2.4 mm)	1	1	1	1
.. 11	◆13N29	Collet Body, 1/8 in. (3.2 mm)	1	1	1	1
.. 12	◆13N20	Collet, 0.020 in. (0.5 mm)	1	1	1	1
.. 12	◆13N21	Collet, 0.040 in. (1.0 mm)	1	1	1	1
.. 12	◆13N22	Collet, 1/16 in. (1.6 mm)	1	1	1	1
.. 12	◆13N23	Collet, 3/32 in. (2.4 mm)	1	1	1	1
.. 12	◆13N24	Collet, 1/8 in. (3.2 mm)	1	1	1	1

Item No.	Stock No.	Description	Quantity/Model			
			W-250 (WP20)	W-250V (WP20V)	W-200 (WP25)	W-225 (WP20P)
Figure 8-1. Complete Torch Assembly (continued)						
13	◆598882	Insulator, Nozzle	1	1	1	1
14	◆WP-20	Torch Body, 250A W/C	1			
15	◆WP-20V	Torch Body, 250A W/C VLV (Includes)		1		
	◆20-10N	Nut, Hose		1		
16	◆WP-25	Torch Body, 200A W/C			1	
17	◆WP-20P	Torch Body, 225A W/C 180 Deg				1
18	◆9-4	Insulator, Backcap	1	1	1	
19	◆VS-2	Knob, Valve		1		
20	◆41V24	Backcap, Long	1	1	1	
21	◆41V35	Backcap, Medium	1	1	1	
22	◆41V33	Backcap, Short	1	1	1	
23	◆53N06	Handle, Knurled Thrd.	1			1
	◆53N06R	Handle, Ribbed Thrd. (Not Shown)	1			1
24	◆H-100	Handle, Knurled		1	1	
	◆H-100R	Handle, Knurled (Not Shown)		1	1	
25	◆53N04	Clamp, Wire	1			1
26	◆45V07	Hose, Water 12.5 Ft (3.8 m) Vinyl	1	1	1	1
26	◆45V07R	Hose, Water 12.5 Ft (3.8 m) Rubber	1	1	1	1
26	◆45V08	Hose, Water 25 Ft (7.6 m) Vinyl	1	1	1	1
26	◆45V08R	Hose, Water 25 Ft (7.6 m) Braided	1	1	1	1
27	◆45V09	Hose, Gas 12.5 Ft (3.8 m) Vinyl	1	1	1	1
27	◆45V09R	Hose, Gas 12.5 Ft (3.8 m) Rubber	1	1	1	1
27	◆45V10	Hose, Gas 25 Ft (7.6 m) Vinyl	1	1	1	1
27	◆45V10R	Hose, Gas 25 Ft (7.6 m) Braided	1	1	1	1
28	◆45V03	Cable, Power 12.5 Ft (3.8 m) Vinyl	1	1	1	1
28	◆45V03R	Cable, Power 12.5 Ft (3.8 m) Braided	1	1	1	1
28	◆45V04	Cable, Power 25 Ft (7.6 m) Vinyl	1	1	1	1
28	◆45V04R	Cable, Power 25 Ft (7.6 m) Braided	1	1	1	1
29	◆WC-3-10	Cover, Cable 10 Ft (3.0 m)	1	1	1	1
29	◆WC-3-22	Cover, Cable 22 Ft (6.7 m)	1	1	1	1
30	◆45V11	Adapter, Power Cable	1	1	1	1
31	◆195377	Conn, Water 50mm	1	1	1	1
31	◆195380	Adapter, Torch-intnl Style Water(#20)	1	1	1	1
31	◆225028	Adapter, Torch-thread Lock Water (7/8 Lht)Sing Wet1	1	1	1	1
	◆AK-4C	Kit, Accessory	1	1	1	1
	◆MAK-IS	Kit, Accessory	1	1	1	1

◆OPTIONAL

BE SURE TO PROVIDE MODEL AND STYLE NUMBER WHEN ORDERING REPLACEMENT PARTS.

TRUE BLUE[®]

WARRANTY

Effective January 1, 2014

(Equipment with a serial number preface of ME or newer)

This limited warranty supersedes all previous Miller warranties and is exclusive with no other guarantees or warranties expressed or implied.

LIMITED WARRANTY – Subject to the terms and conditions below, Miller Electric Mfg. Co., Appleton, Wisconsin, warrants to its original retail purchaser that new Miller equipment sold after the effective date of this limited warranty is free of defects in material and workmanship at the time it is shipped by Miller. **THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.**

Within the warranty periods listed below, Miller will repair or replace any warranted parts or components that fail due to such defects in material or workmanship. Miller must be notified in writing within thirty (30) days of such defect or failure, at which time Miller will provide instructions on the warranty claim procedures to be followed.

Miller shall honor warranty claims on warranted equipment listed below in the event of such a failure within the warranty time periods. All warranty time periods start on the delivery date of the equipment to the original end-user purchaser, and not to exceed twelve months after the equipment is shipped to a North American distributor or eighteen months after the equipment is shipped to an International distributor.

- 5 Years Parts — 3 Years Labor
 - * Original Main Power Rectifiers Only to Include SCRs, Diodes, and Discrete Rectifier Modules
- 3 Years — Parts and Labor
 - * Auto-Darkening Helmet Lenses (Except Classic Series) (No Labor)
 - * Engine Driven Welding Generators
(NOTE: Engines are Warranted Separately by the Engine Manufacturer.)
 - * Inverter Power Sources (Unless Otherwise Stated)
 - * Plasma Arc Cutting Power Sources
 - * Process Controllers
 - * Semi-Automatic and Automatic Wire Feeders
 - * Transformer/Rectifier Power Sources
- 2 Years — Parts and Labor
 - * Auto-Darkening Helmet Lenses – Classic Series Only (No Labor)
 - * Fume Extractors – Capture 5, Filtair 400 and Industrial Collector Series
- 1 Year — Parts and Labor Unless Specified
 - * Automatic Motion Devices
 - * CoolBelt and CoolBand Blower Unit (No Labor)
 - * External Monitoring Equipment and Sensors
 - * Field Options
(NOTE: Field options are covered for the remaining warranty period of the product they are installed in, or for a minimum of one year — whichever is greater.)
 - * RFCS Foot Controls (Except RFCS-RJ45)
 - * Fume Extractors – Filtair 130, MWX and SWX Series
 - * HF Units
 - * ICE/XT Plasma Cutting Torches (No Labor)
 - * Induction Heating Power Sources, Coolers
(NOTE: Digital Recorders are Warranted Separately by the Manufacturer.)
 - * LiveArc Welding Performance Management System
 - * Load Banks
 - * Motor Driven Guns (except Spoolmate Spoolguns)
 - * PAPR Blower Unit (No Labor)
 - * Positioners and Controllers
 - * Racks
 - * Running Gear/Trailers
 - * Spot Welders
 - * Subarc Wire Drive Assemblies
 - * Water Coolant Systems
 - * TIG Torches (No Labor)
 - * Wireless Remote Foot/Hand Controls and Receivers
 - * Work Stations/Weld Tables (No Labor)

- 6 Months — Parts
 - * Batteries
 - * Bernard Guns (No Labor)
 - * Tregaskiss Guns (No Labor)
- 90 Days — Parts
 - * Accessory (Kits)
 - * Canvas Covers
 - * Induction Heating Coils and Blankets, Cables, and Non-Electronic Controls
 - * M-Guns
 - * MIG Guns and Subarc (SAW) Guns
 - * Remote Controls and RFCS-RJ45
 - * Replacement Parts (No labor)
 - * Roughneck Guns
 - * Spoolmate Spoolguns

Miller's True Blue[®] Limited Warranty shall not apply to:

- Consumable components; such as contact tips, cutting nozzles, contactors, brushes, relays, work station table tops and welding curtains, or parts that fail due to normal wear . (Exception: brushes and relays are covered on all engine-driven products.)**
- Items furnished by Miller, but manufactured by others, such as engines or trade accessories. These items are covered by the manufacturer's warranty, if any.
- Equipment that has been modified by any party other than Miller, or equipment that has been improperly installed, improperly operated or misused based upon industry standards, or equipment which has not had reasonable and necessary maintenance, or equipment which has been used for operation outside of the specifications for the equipment.

MILLER PRODUCTS ARE INTENDED FOR PURCHASE AND USE BY COMMERCIAL/INDUSTRIAL USERS AND PERSONS TRAINED AND EXPERIENCED IN THE USE AND MAINTENANCE OF WELDING EQUIPMENT.

In the event of a warranty claim covered by this warranty, the exclusive remedies shall be, at Miller's option: (1) repair; or (2) replacement; or, where authorized in writing by Miller in appropriate cases, (3) the reasonable cost of repair or replacement at an authorized Miller service station; or (4) payment of or credit for the purchase price (less reasonable depreciation based upon actual use) upon return of the goods at customer's risk and expense. Miller's option of repair or replacement will be F.O.B., Factory at Appleton, Wisconsin, or F.O.B. at a Miller authorized service facility as determined by Miller. Therefore no compensation or reimbursement for transportation costs of any kind will be allowed. TO THE EXTENT PERMITTED BY LAW, THE REMEDIES PROVIDED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT SHALL MILLER BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFIT), WHETHER BASED ON CONTRACT, TORT OR ANY OTHER LEGAL THEORY.

ANY EXPRESS WARRANTY NOT PROVIDED HEREIN AND ANY IMPLIED WARRANTY, GUARANTY OR REPRESENTATION AS TO PERFORMANCE, AND ANY REMEDY FOR BREACH OF CONTRACT TORT OR ANY OTHER LEGAL THEORY WHICH, BUT FOR THIS PROVISION, MIGHT ARISE BY IMPLICATION, OPERATION OF LAW, CUSTOM OF TRADE OR COURSE OF DEALING, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, WITH RESPECT TO ANY AND ALL EQUIPMENT FURNISHED BY MILLER IS EXCLUDED AND DISCLAIMED BY MILLER.

Some states in the U.S.A. do not allow limitations of how long an implied warranty lasts, or the exclusion of incidental, indirect, special or consequential damages, so the above limitation or exclusion may not apply to you. This warranty provides specific legal rights, and other rights may be available, but may vary from state to state.

In Canada, legislation in some provinces provides for certain additional warranties or remedies other than as stated herein, and to the extent that they may not be waived, the limitations and exclusions set out above may not apply. This Limited Warranty provides specific legal rights, and other rights may be available, but may vary from province to province.

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Warranty Questions?

Call
1-800-4-A-MILLER
for your local
Miller distributor.

Your distributor also gives
you ...

Service

You always get the fast,
reliable response you
need. Most replacement
parts can be in your
hands in 24 hours.

Support

Need fast answers to the
tough welding questions?
Contact your distributor.
The expertise of the
distributor and Miller is
there to help you, every
step of the way.





Owner's Record

Please complete and retain with your personal records.

Model Name

Serial/Style Number

Purchase Date

(Date which equipment was delivered to original customer.)

Distributor

Address

City

State

Zip



For Service

Contact a **DISTRIBUTOR** or **SERVICE AGENCY** near you.

Always provide Model Name and Serial/Style Number.

Contact your Distributor for:

Welding Supplies and Consumables

Options and Accessories

Personal Safety Equipment

Service and Repair

Replacement Parts

Training (Schools, Videos, Books)

Technical Manuals (Servicing Information and Parts)

Circuit Diagrams

Welding Process Handbooks

To locate a Distributor or Service Agency visit www.millerwelds.com or call 1-800-4-A-Miller

Contact the Delivering Carrier to:

File a claim for loss or damage during shipment.

For assistance in filing or settling claims, contact your distributor and/or equipment manufacturer's Transportation Department.

Miller Electric Mfg. Co.

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USA & Canada FAX: 920-735-4134
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For International Locations Visit
www.MillerWelds.com

